WHAT IS CLAIMED IS:

1. A method of processing image data, the method comprising the steps of:

acquiring a frame of image data; and

compressing a dynamic range of the frame of image data using a DRC algorithm that utilizes down-sampling, median filtering, and up-sampling.

2. The method of claim 1, further comprising the step of:

normalizing the frame of image data prior to the step of compressing the dynamic range.

3. The method of claim 2, wherein said normalizing comprises:

correcting the frame of image data using a set of correction coefficients corresponding to detector elements of a detector array used to collect the frame of image data.

4. The method of claim 2, further comprising the step of:

applying a dead-channel-replacement correction after the step of normalizing the frame of image data.

5. The method of claim 4, further comprising the step of:

applying a scene-based non-uniformity correction after the step of applying the dead-channel-replacement correction.

6. The method of claim 5, further comprising the step of:

applying edge-enhancement after the step of compressing the dynamic range.

7. The method of claim 6, wherein applying edge-enhancement comprises the steps of:

blurring input image data;

subtracting blurred input image data from the input image data.

8. The method of claim 7, wherein blurring input image data comprises:

applying a first edge filter to the input image data, thereby generating first-edge-filtered data; and

applying a second edge filter to the first-edge-filtered data, wherein first kernel coefficients of the first edge filter and second kernel coefficients of the second edge filter are configured to approximate a resultant gaussian function.

9. The method of claim 6, further comprising the step of:

applying noise filtering after the step of applying edge-enhancement.

10. The method of claim 9, further comprising the step of:

displaying an image corresponding to the frame of image data after the step of applying noise filtering.

11. A method of dynamic range compression of image data, the method comprising the steps of:

down-sampling a frame of image data comprising a first array of pixels to generate a second array of pixels;

applying a first median filter to the second array of pixels to generate a blurred array of pixels;

up-sampling the blurred array of pixels; and

removing at least a portion of low-frequency gradient data generated by previous steps from the frame of image data.

12. The method of claim 11, wherein said up-sampling comprises applying bilinear interpolation.

13. The method of claim 11, wherein the first median filter is a large-area median filter.

14. The method of claim 13, wherein the large-area median filter has a kernel of N=L+M elements, wherein L elements are active elements and M elements are non-active elements.

15. The method of claim 14, wherein the active elements are arranged in a predetermined pattern.

16. The method of claim 15, wherein the predetermined pattern is configured as a star-shaped pattern.

17. The method of claim 15, wherein the predetermined pattern is configured as a checkerboard pattern.

18. The method of claim 11, further comprising the step of:

applying a second median filter after applying the first median filter, the second median filter having a smaller kernel than the first median filter.

19. The method of claim 18, further comprising the step of:

applying a mean filter after applying the second the median filter.

20. The method of claim 19, further comprising the step of:

smoothing output data from the up-sampling, wherein output data from said smoothing provides the low-frequency gradient data.

21. The method of claim 20, wherein said smoothing comprises:

applying a vertical and horizontal finite-impulse-response (FIR) filter.

22. A method of approximating a gaussian-blur filter, the method comprising:

applying a first box filter having a first kernel size to a group of pixels of a frame of image data; and

applying a second box filter having a second kernel size to the group of pixels, wherein first kernel coefficients for the first box filter and second kernel coefficients for the second box filter are configured to approximate a resultant gaussian function.

23. The method of claim 22, wherein the second kernel size is greater than or equal to the first kernel size.

24. The method of claim 23, wherein the first kernel size of the first box filter is symmetric and wherein the second kernel size of the second box filter is asymmetric.

25. The method of claim 23, wherein the first kernel size of the first box filter is symmetric and wherein the second kernel size of the second box filter is symmetric.

26. An apparatus for processing image data, comprising:

an image-data source; and

a processor unit coupled to the image-data source, the processor unit being configured to compress a dynamic range of a frame of image data using a low-frequency-suppression algorithm that uses down-sampling, median filtering, and up-sampling.

27. An apparatus for dynamic range compression of image data, comprising:

a processor unit coupled to an image-data source, the processor unit being configured to:

down-sample a frame of image data comprising a first array of pixels to generate a second array of pixels;

apply a first median filter to the second array of pixels to generate a blurred array of pixels;

up-sample the blurred array of pixels; and

remove at least a portion of low-frequency gradient data thereby generated by the processor unit from the frame of image data.

28. An apparatus for approximating a gaussian-blur filter, comprising:

a processor unit coupled to an data source, the processor unit being configured to:

apply a first box filter having a first kernel size to a group of pixels of a frame of data; and

apply a second box filter having a second kernel size to the group of pixels, wherein first kernel coefficients of the first box filter and second kernel coefficients of the second box filter are configured to approximate a resultant gaussian function.